



NORTHERN HARDWOOD NOTES

Tree Injuries From Mechanized Logging

Small trees in even-aged northern hardwood stands suffer the most mechanical damage when stands are thinned for the first time. From 15 to 35 percent of the trees may be damaged; a quarter of the trees (but usually less than 20 per acre) can be seriously damaged by having at least 50 square inches of the cambium exposed. Bole damage is most common, followed by root and then crown damage.

Although mechanical logging takes its toll of injuries, it makes early thinnings economical, shortens rotations, and speeds volume and quality growth. You can remove damaged stems in later thinnings because initial thinnings commonly leave more than three times the number of trees required at maturity.

What about long-term impact? Most studies show that severe damage to fewer than 30 trees per acre in first thinnings should have little impact if most of the trees are small. Rapid growth on small trees tends to heal injuries quickly.

Skillful operators, of course, and good weather make for less damage. Here are some other ways to minimize damage:

1. Use short equipment, or equipment with boom-mounted heads.
2. Lay out logging patterns to match the equipment.
3. Expect and plan for skidding turns at sharp angles.
4. Look for and then avoid large, high quality trees during logging.
5. Use a large turning radius with all machines, particularly tracked equipment.
6. Encourage reasonable load limitations.
7. Do not log during extremely wet periods.

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